

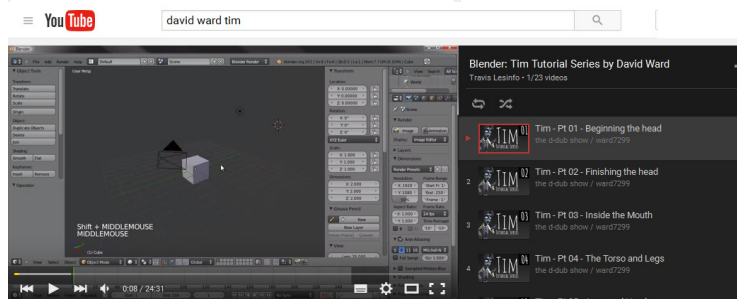
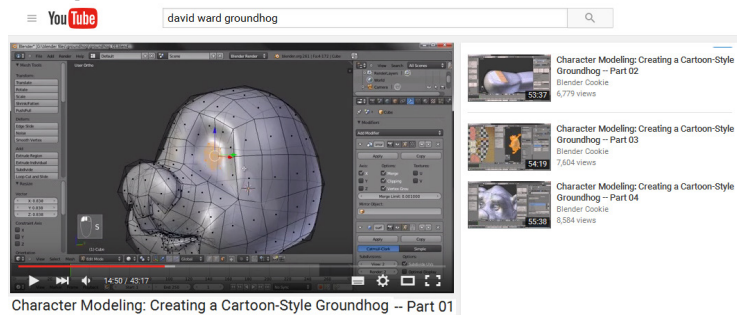
Blenda 5 skeleton p. 1

Do you want to know more about Blender skeletones - called armatures in Blender you can go to David Wards tutorials on youtube.com. Here you can find his Groundhog in 4 parts and Tim in 23 parts.

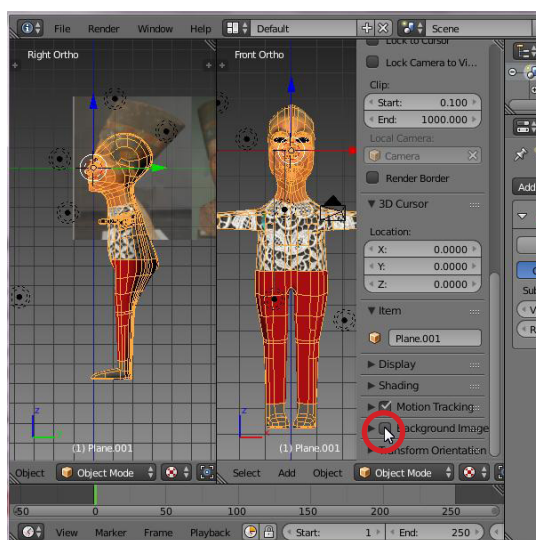
Blenda you can find on <https://www.youtube.com/watch?v=6b5h7j0qexw>



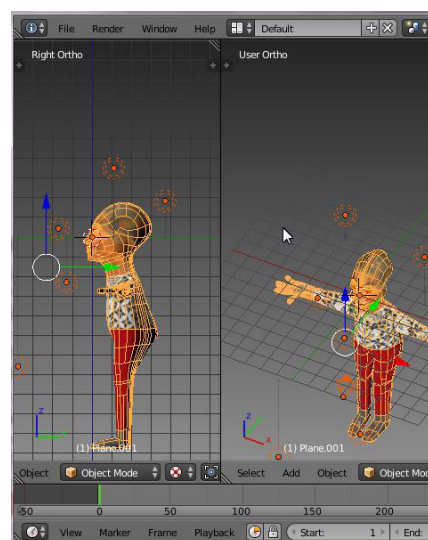
Blender beginner character to animate with Blender - see PDF-tutorials



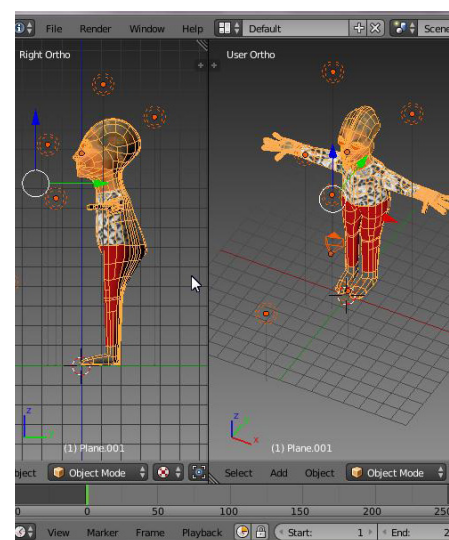
Tim - Pt 01 - Beginning the head



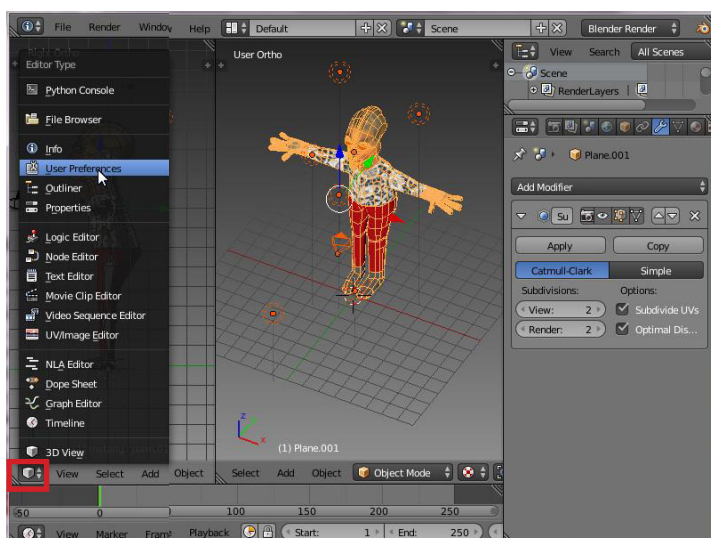
Time to give Blenda a skeleton - in Blender called armature. You can hide the background picture of Nefertiti.



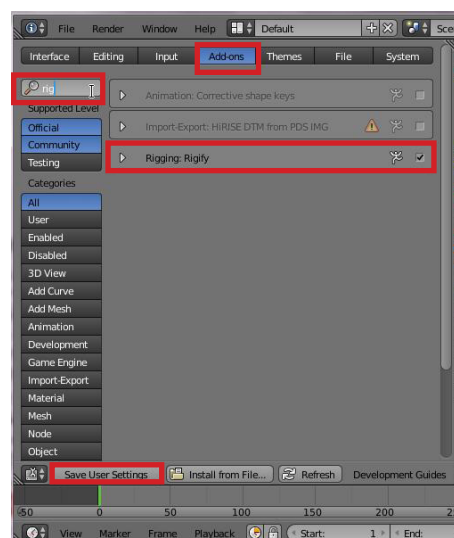
In Object Mode - A - to select everything - the character, the lamps and the camera.



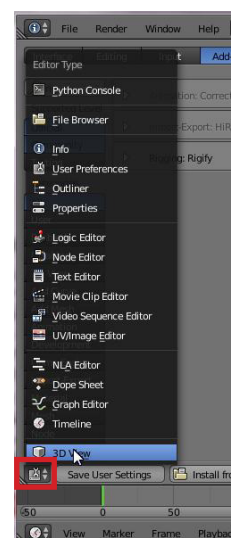
And grab the blue Z-arrow and move it upwards so the character will be standing on the grid - the XY-plane.



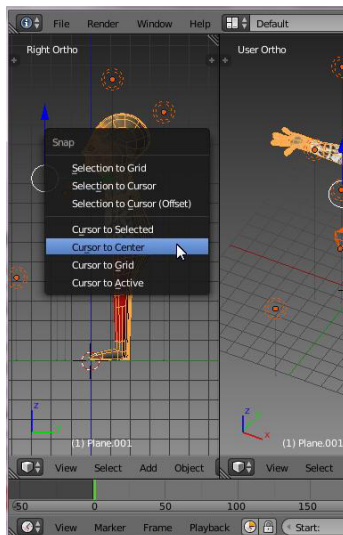
To be able to use a ready made armature you have to go to User Preferences



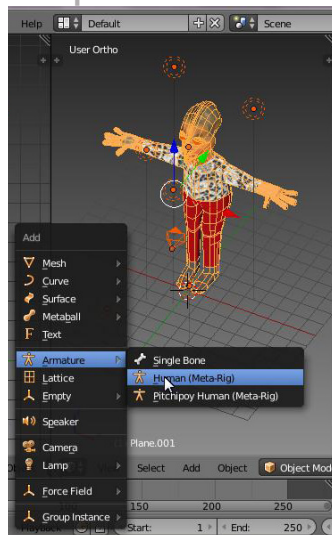
Choose the tab Addons. Search for rig and an Addon named Rigging Rigify will show up. Tick it. And then the button Save User Settings.



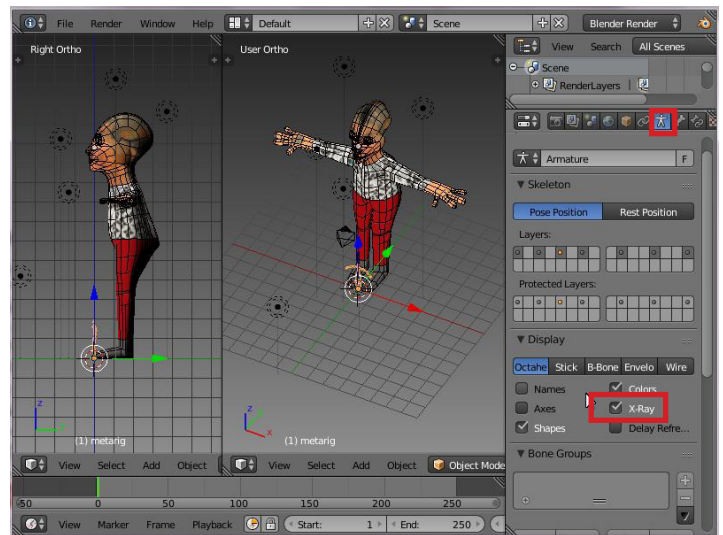
Go back to the 3D view.



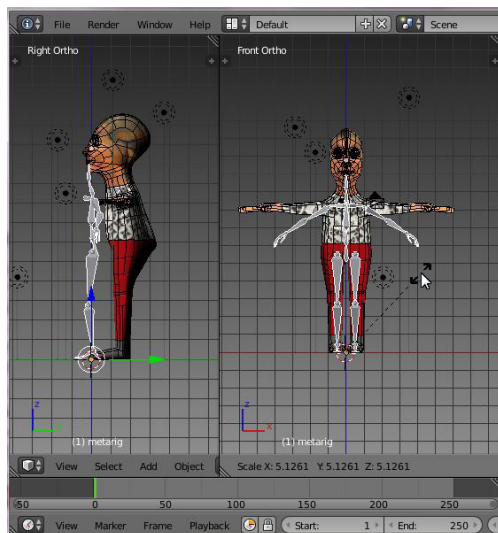
SHIFT+S and choose from the menu Cursor to Center
And the 3D cursor will show up between Blendan's feet.



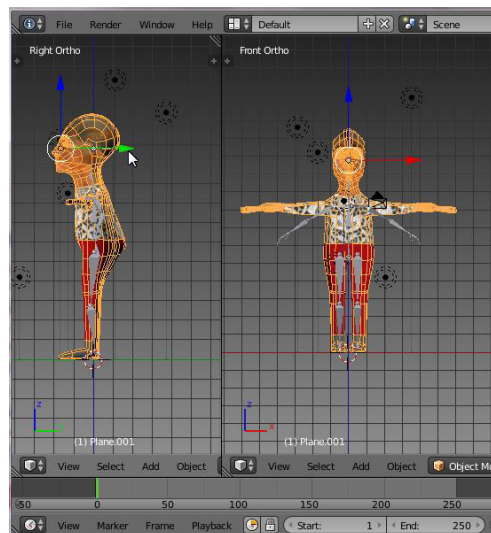
SHIFT+A and choose
Armature > Human Meta Rig



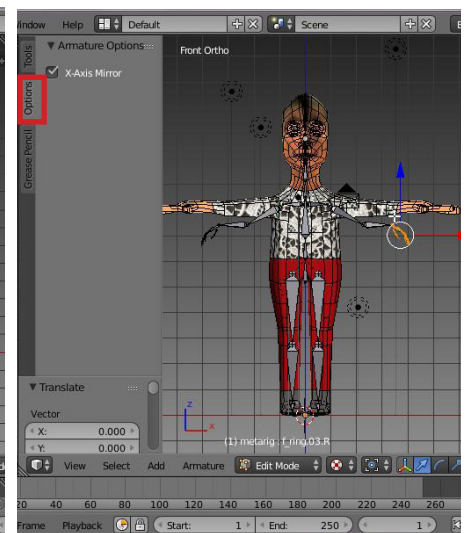
A tiny skeleton will show up between Blendan's feet.
Tick X-Ray under the tab Data and you can see the skeleton through the body of Blendan.



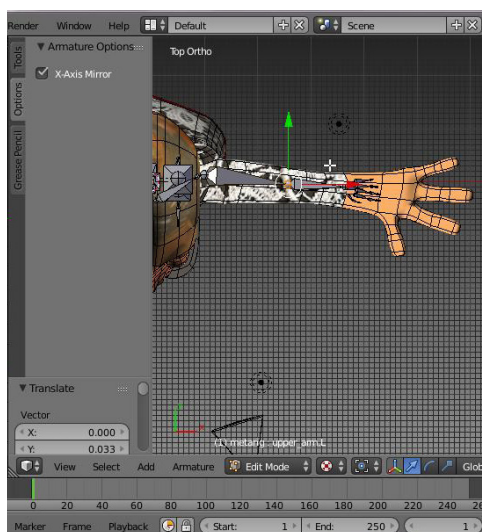
S - to scale the skeleton so the arms of the skeleton conforms with Blendan's shoulders.



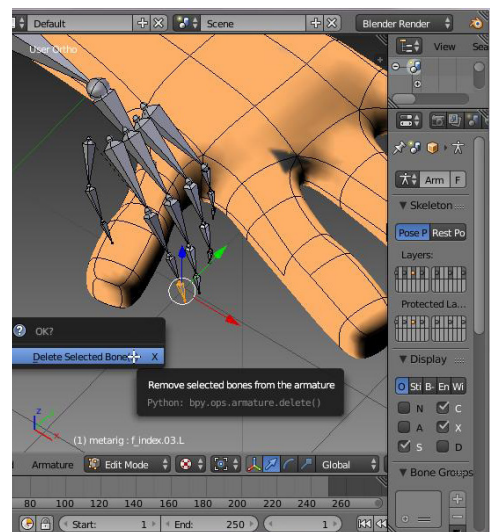
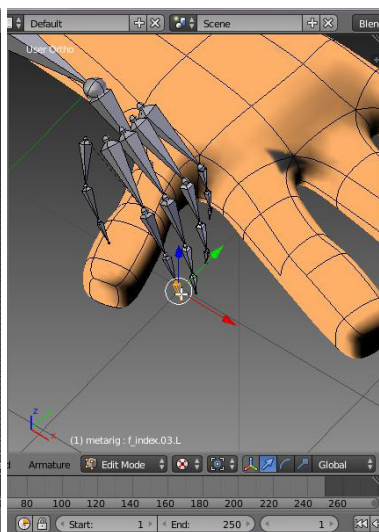
Select Blendan's body in Object Mode and drag it so it conforms with the skeleton's legs.



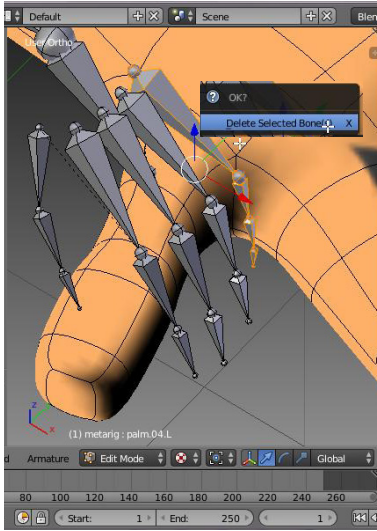
T - to get the Tools menu and then the tab Options and tick X Axis Mirror.
C - and you can select the hand and move it in place.



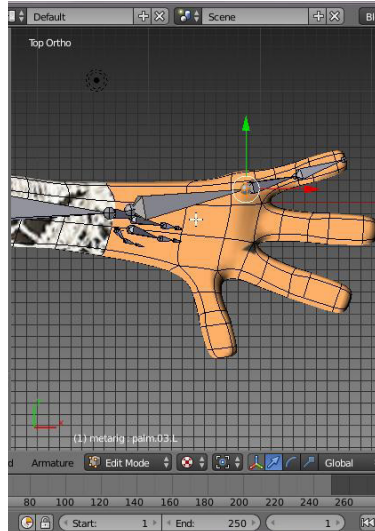
7 - for the Top view and drag the elbow in place.



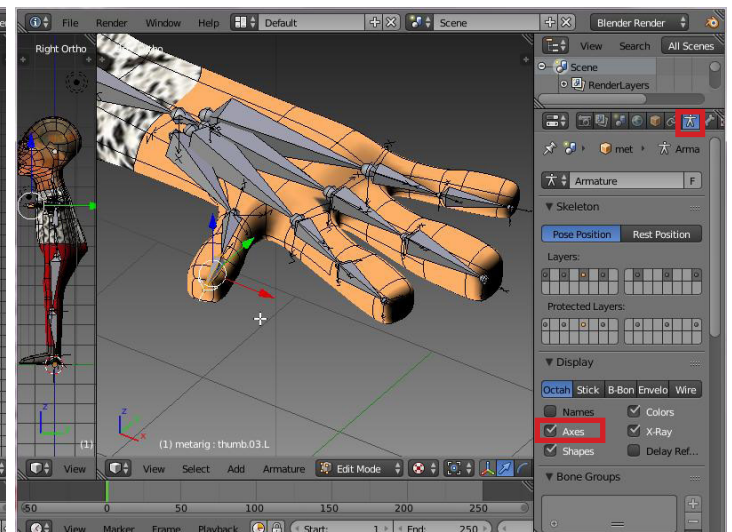
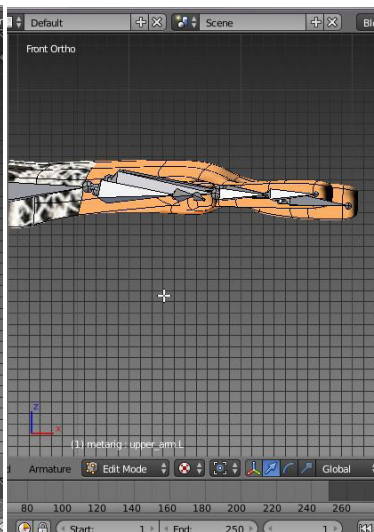
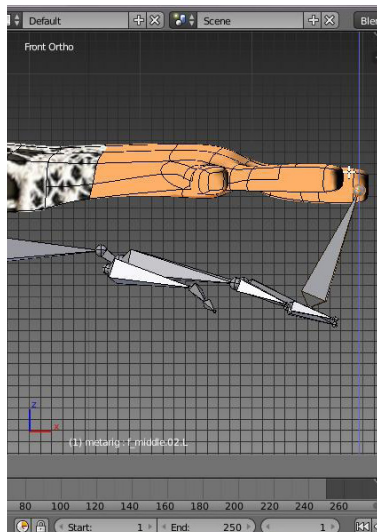
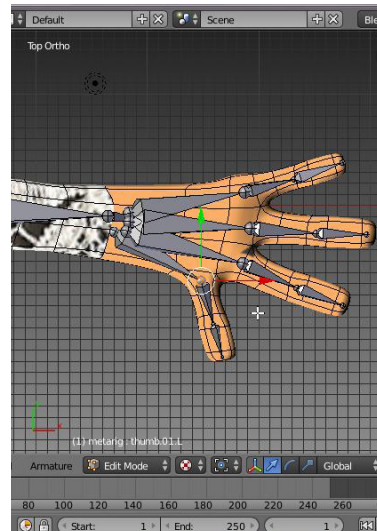
The character Blendan has only got 4 fingers and every finger has only one joint instead of the normal two joints so you have to select some bones. And then X to delete them.



Here has the outmost part of the fingers been deleted - but not the thumbs outmost part. The little finger is selected and then X to delete it.

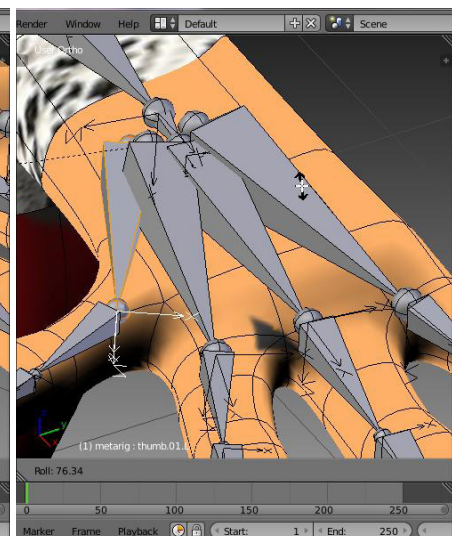
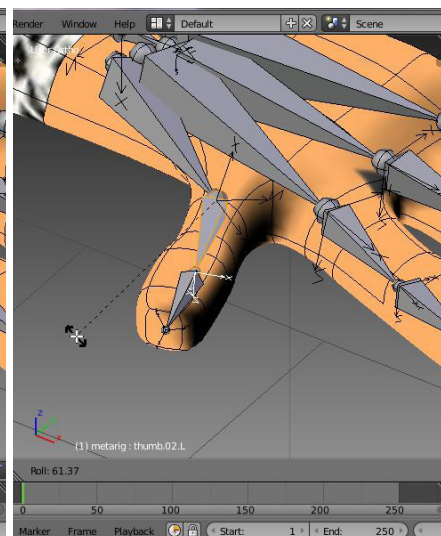
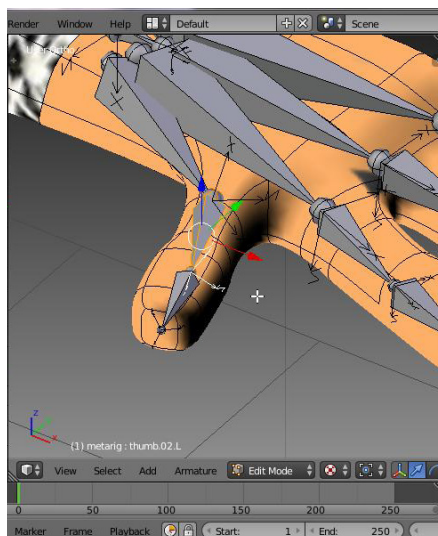


Move the finger bones to their places.



Have you got the fingers in their places in the Top view move their joints straight up so they will fit in place also vertically.

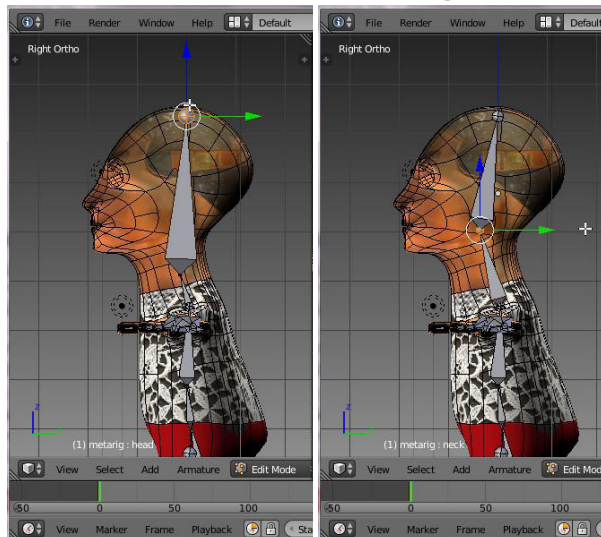
Under the Data tab tick Axes



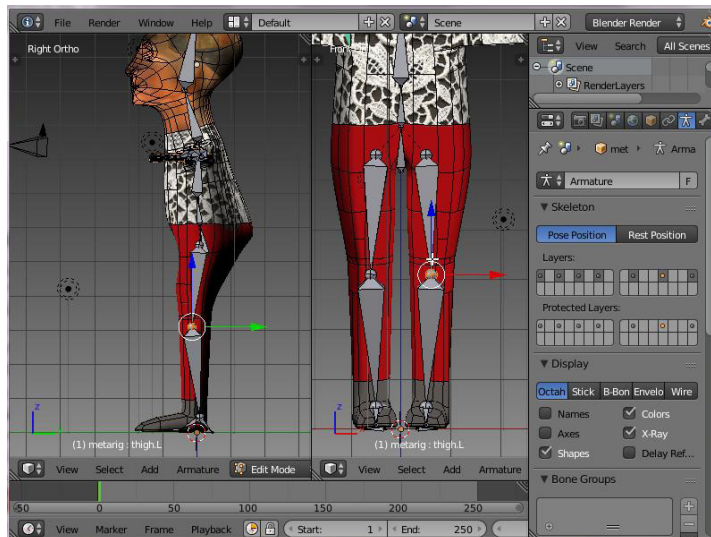
The finger bones Z-axis have to point straight down so the fingers can bend correct.

Select a bone and then CTRL+R to rotate the bone so its Z-axis points down.

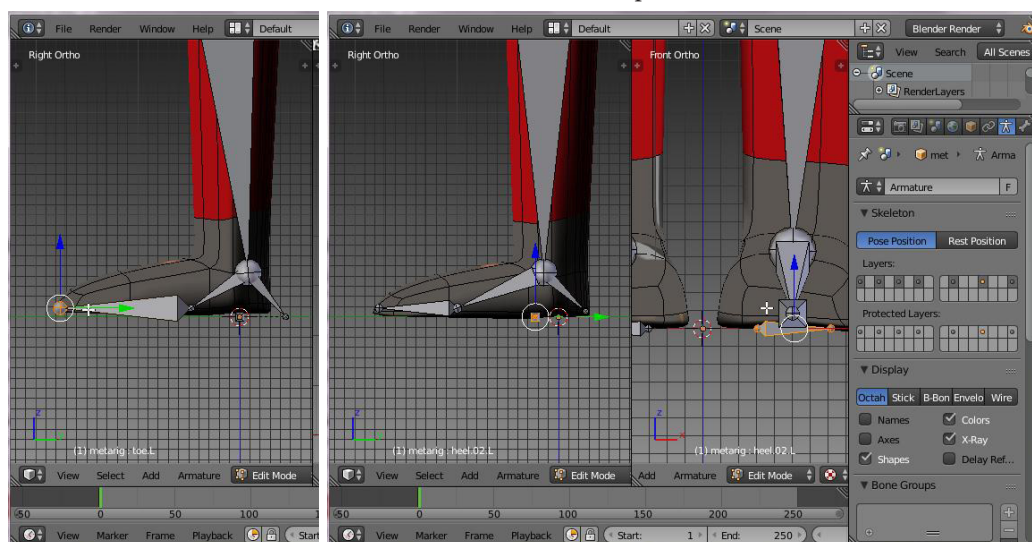
Continue with the bones with Z-axis not pointing down.



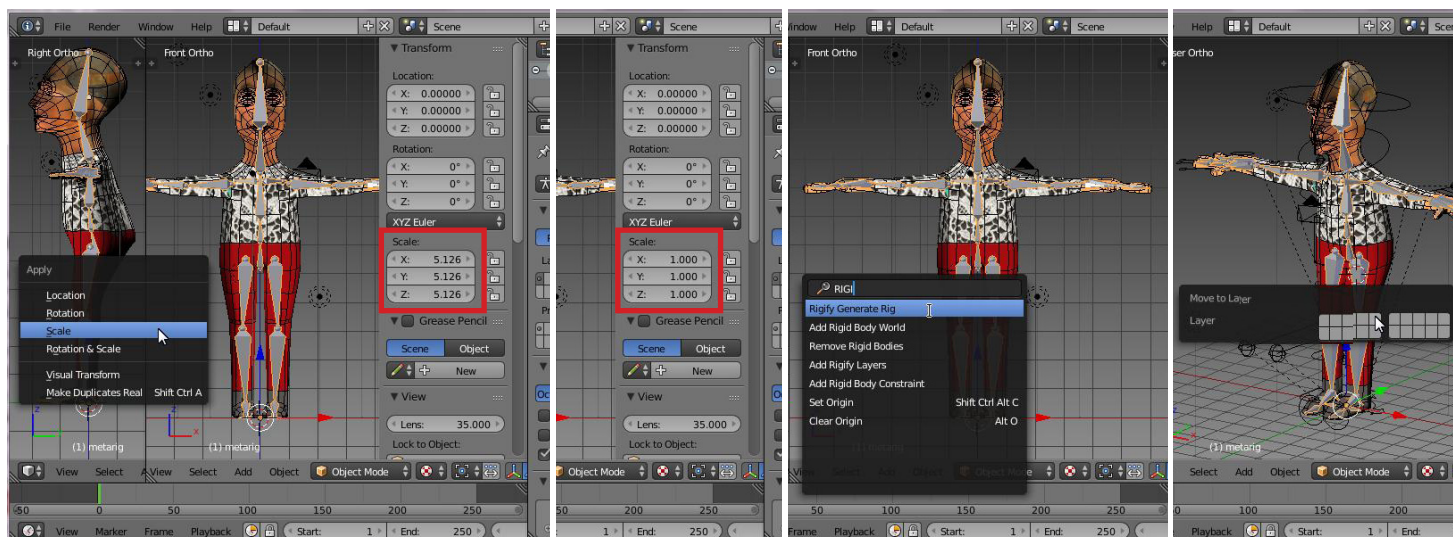
Place the bones in the head and in the neck.



The bones in the bones and in the legs you also have to move in place.



The foot bones you also have to move into place.



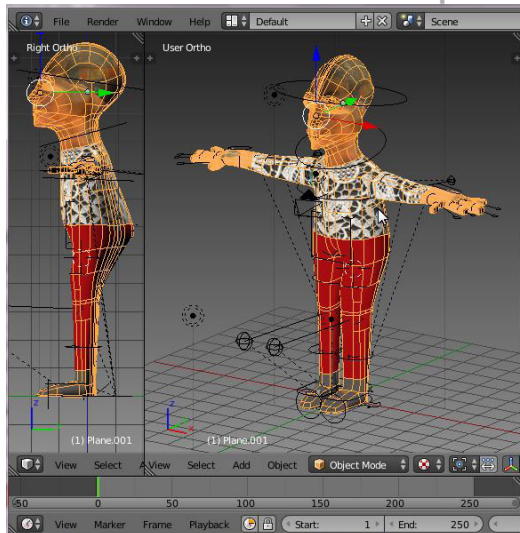
Then the bones are in their places - A - to mark the whole skeleton in Object Mode and then CTRL+A and choose Scale.

And the skeleton will scale so the scale X, Y and Z will become equal to 1.000

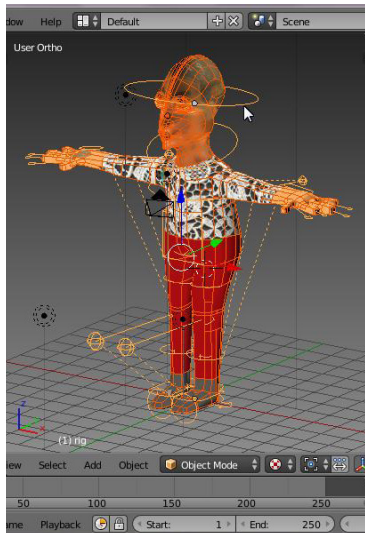
The space key and you will get a menu and you can make a search. Type in: RIGI and then click Rigify Generate Rig

You have to wait some seconds and the rig will be created .

You can delete the skeleton or you can move it to another layer. Select the skeleton and then - M - and choose a layer to place the skeleton on.



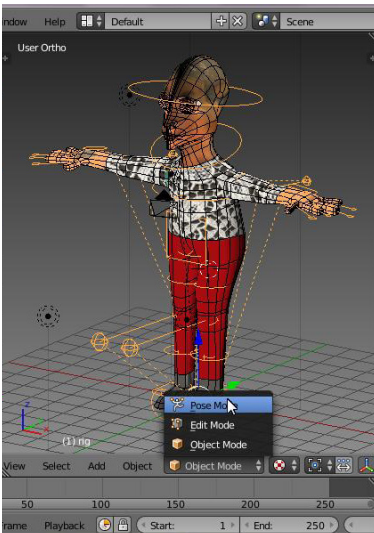
The rig has to direct - steer the body. The child - the body needs to get a steering parent - the rig. To attach the body in the rig mark first the body.



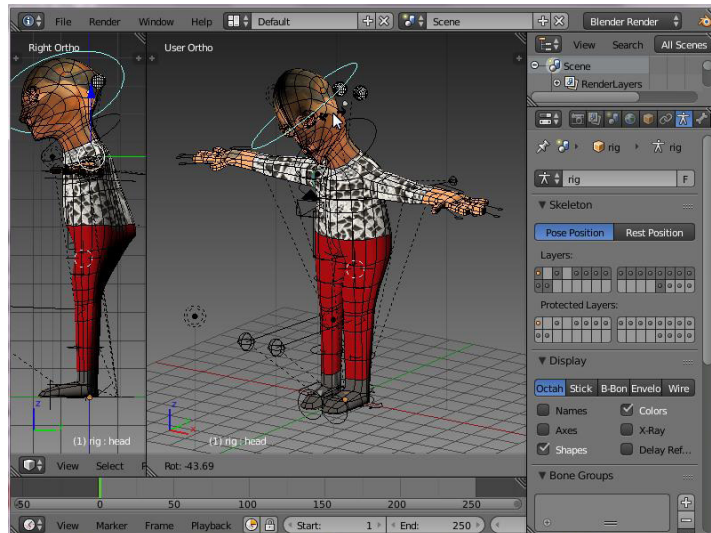
Hold down SHIFT and select the rig.



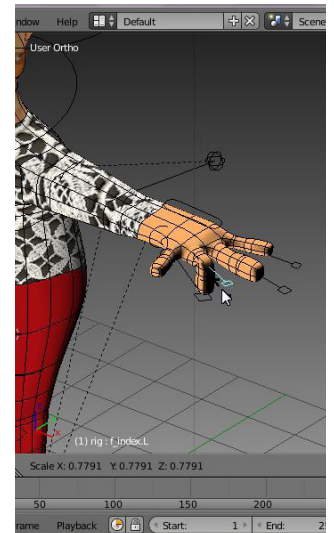
CTRL+P and from the menu choose With Automatic Weights



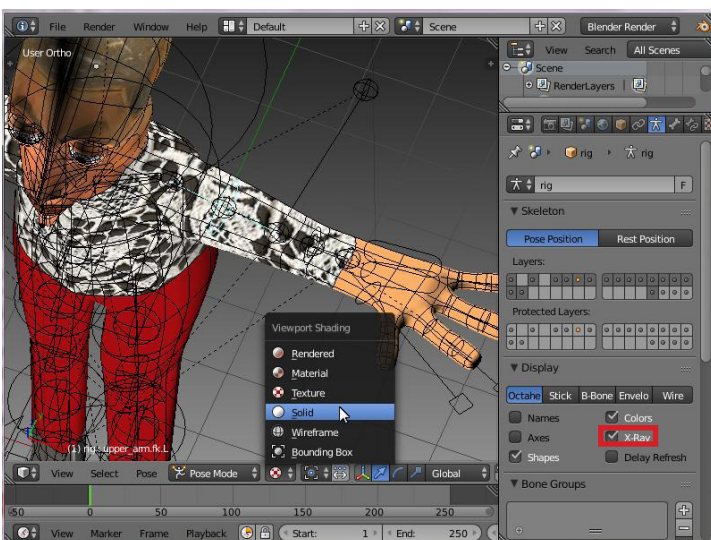
Select the rig and go to Pose Mode



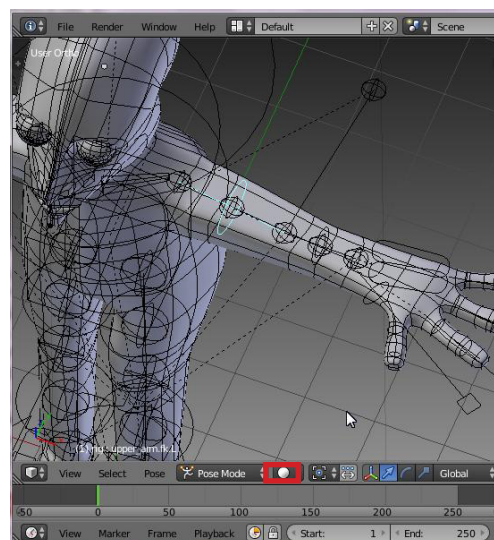
Now you can select some part of the rig and then - R - to rotate or - G - to move and the body part will follow.



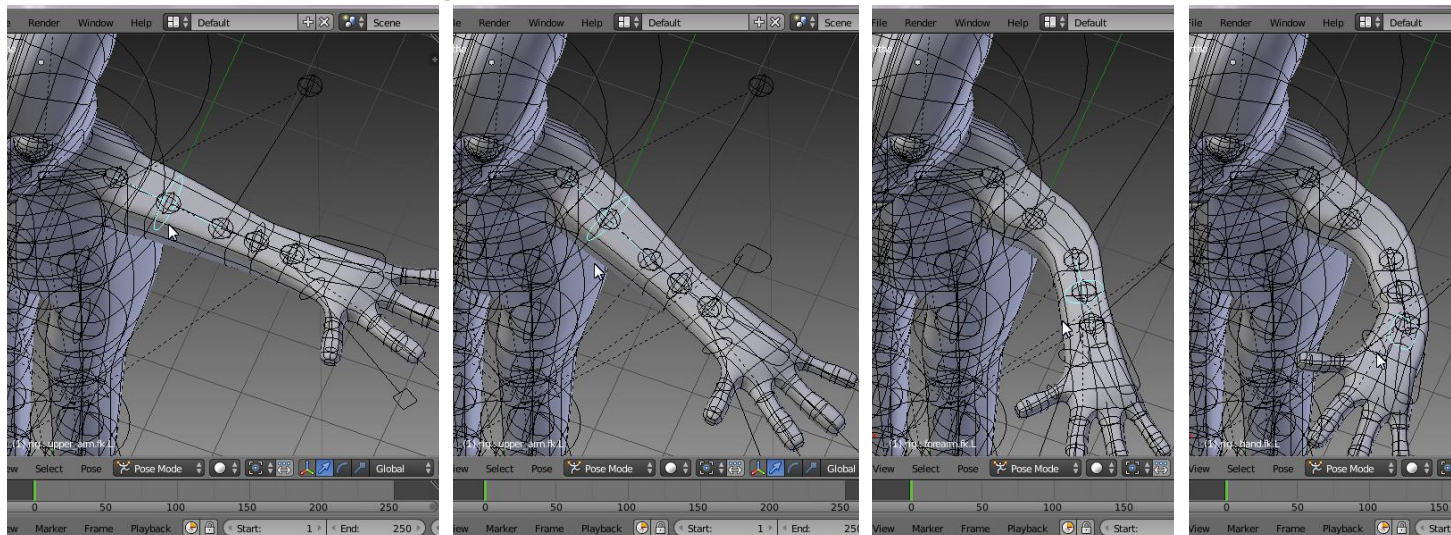
S - to bend the fingers



Tick X-Ray to see the rig through the body. Cloths with a lace pattern will make it hard to see the rig.

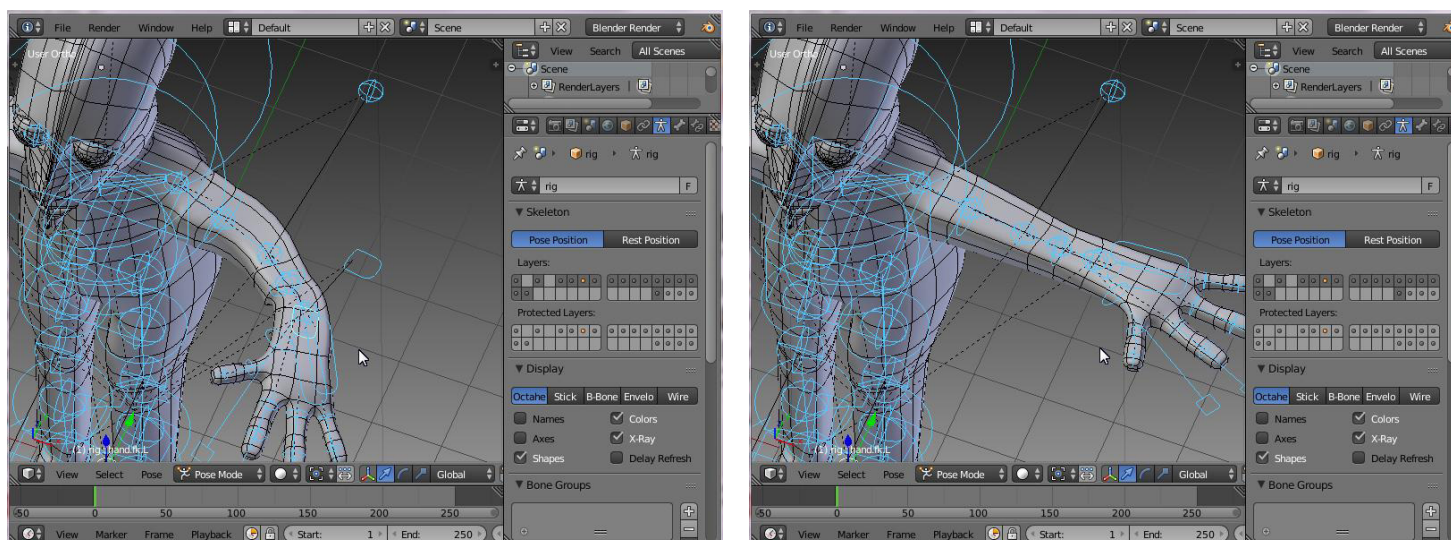


If you choose Solid it will be easier to see the rig.

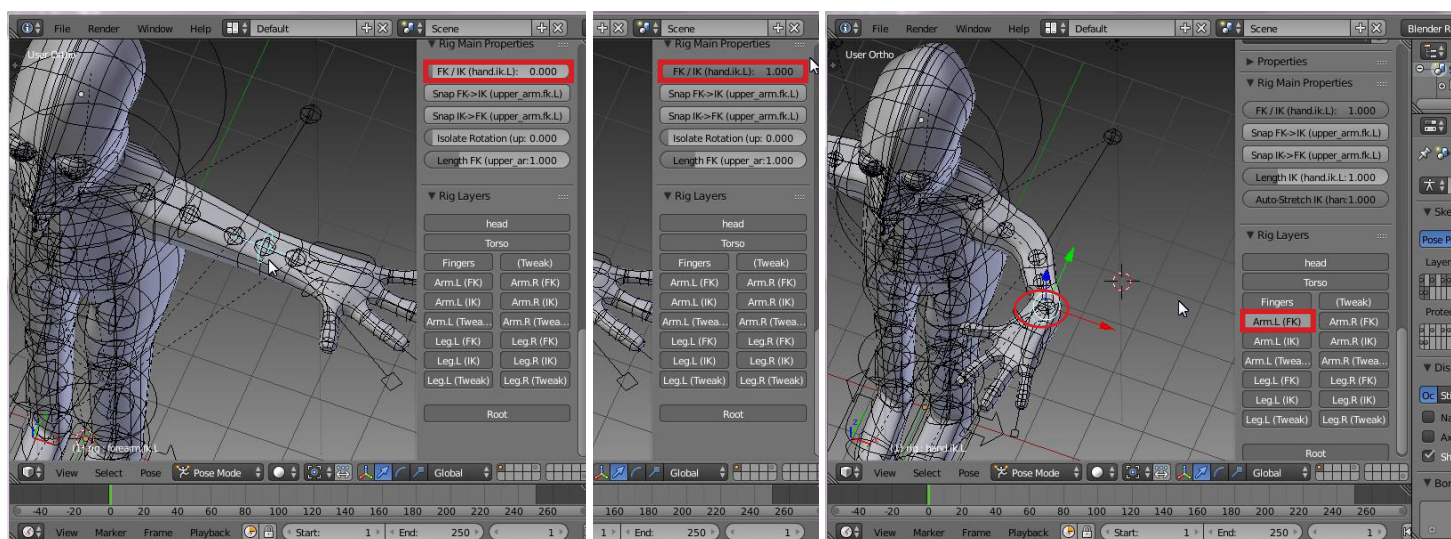


To bend the arm you can first rotate the upper arm and then rotate the forearm and then last the hand.

This is called FK - Forward Kinematics. There is another way IK - Inverse Kinematics. In IK mode you can select the hand and move it and the forearm and the upper arm will follow.



To restore everything to the start position - A - to select the whole rig and then ALT+R to re-set rotations, ALT+G to re-set movements and ALT+S to re-set scale.



To get the arm in IK mode - Inverse Kinematics mode you have to select a part of the arms rig. N - will show the Properties menu.

And you can see FK/IK(hand.ik.L) 0.000

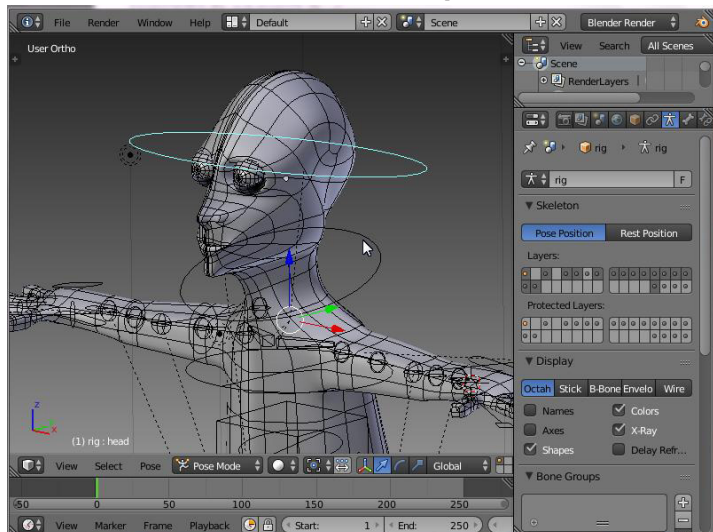
and you have to instead select 1.000 to get IK mode instead of FK mode.

You can deselect - Arm.L(FK) and the FK parts of the rig will hide.

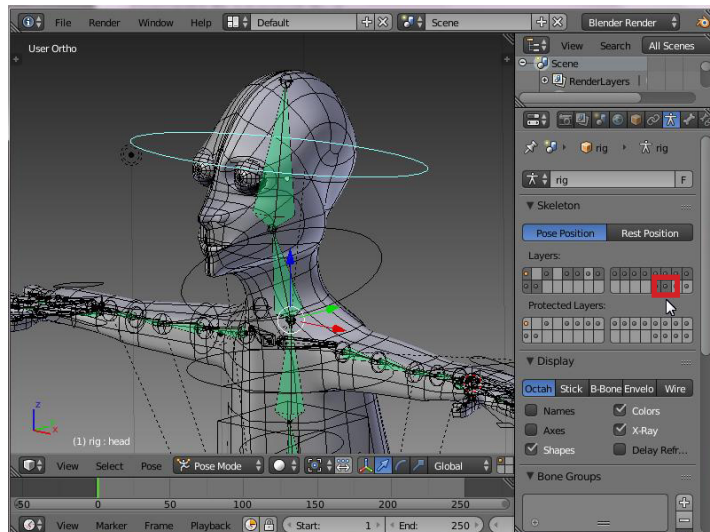
You can now select the arms rig and the rest of the arm will follow the hands movements.

To get the right hand in IK mode you have to do the same with the right hands rig.

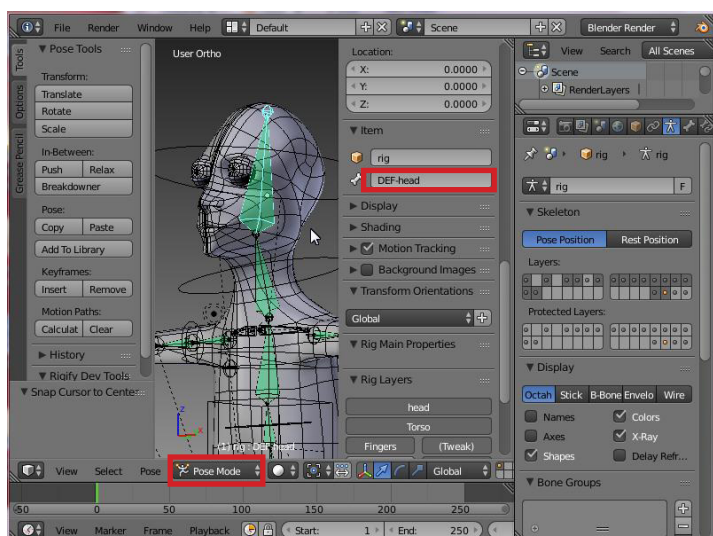
You can also give the legs Inverse Kinematics in the same way.



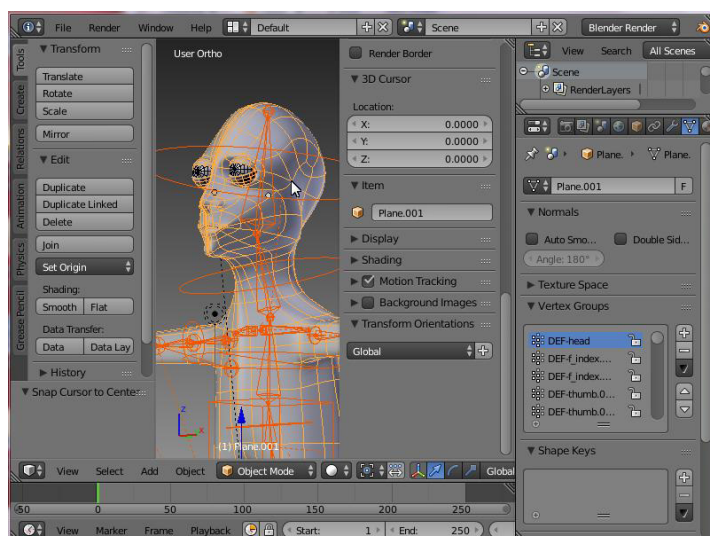
You can need to check how the body parts are attached to the bones. Select some part of the rig in Pose Mode.



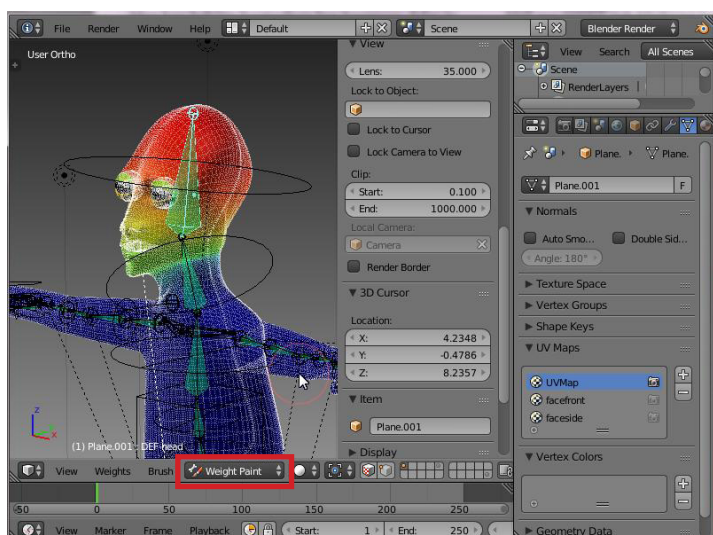
Hold down SHIFT and click on the layers menu to show the DEF-bones.



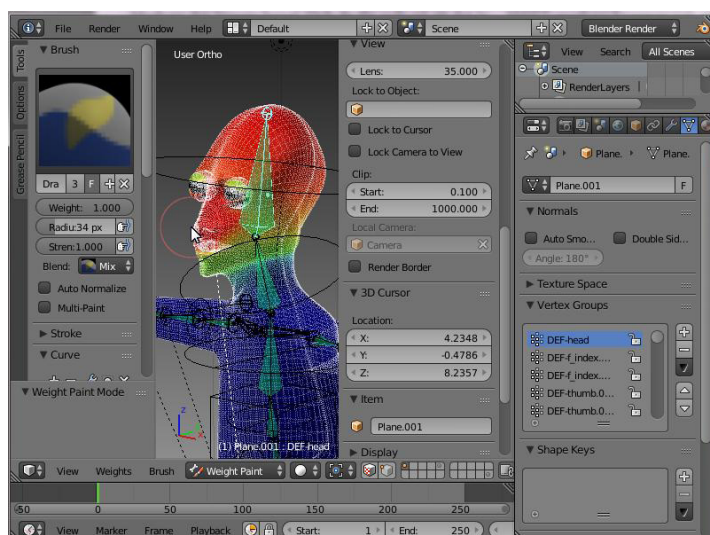
Select the DEF-head and check that you are in Pose mode.



Hold down SHIFT and select the body.

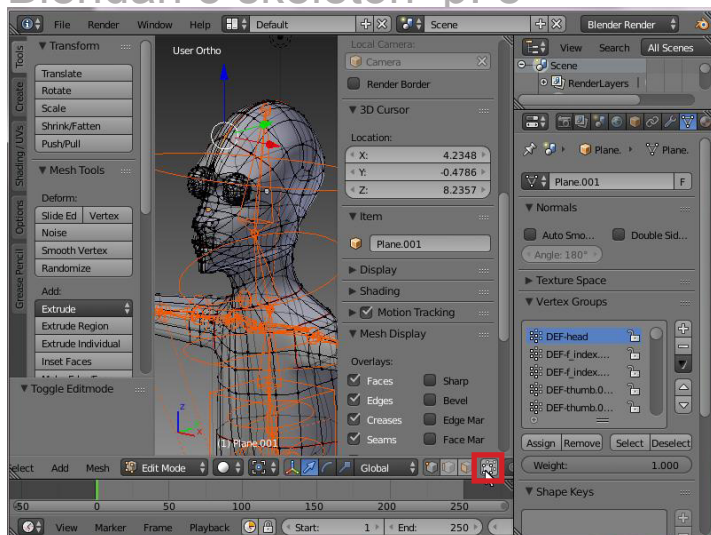


Choose Weight Paint. The parts colored red is influenced to 100 percent of the bone. Blue parts is not at all influenced.

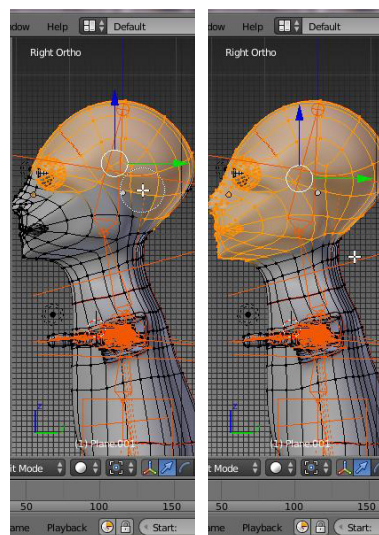


T - for the Tools menu. Strength: 1.000 and you can paint red to increase the influence of the bone.

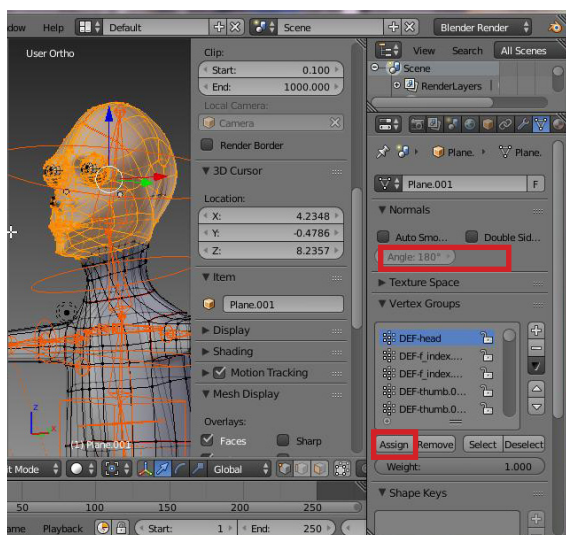
Blender 5 skeleton p. 8 DEF-head and DEF-neck



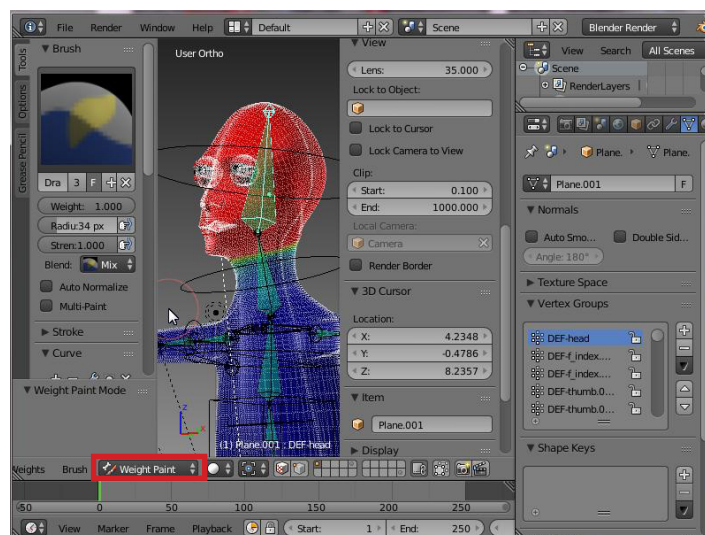
Go to Edit Mode. You have to be able to see both sides of the head. Deselect the button so you can see both sides.



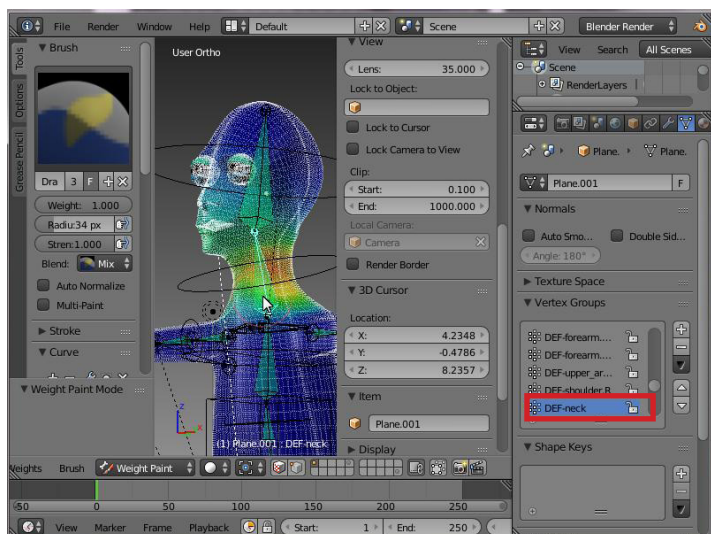
C - and select all parts of the head. SHIFT+C to deselect parts if you have select some wrong part.



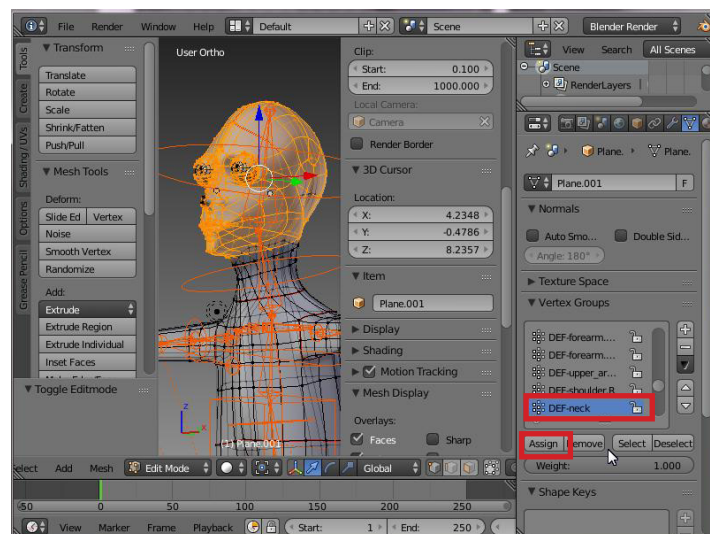
Rotate the scene to control all parts of the head are selected. Then click Assign.



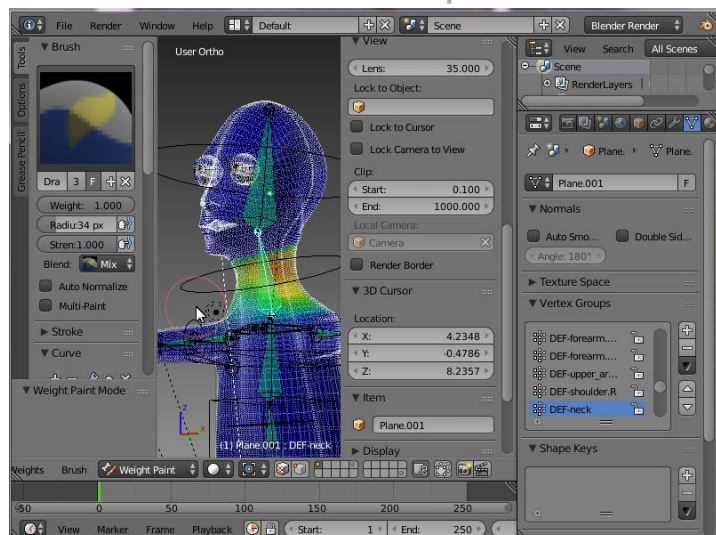
Go to Weight Paint - check the result - all the head is now colored red.



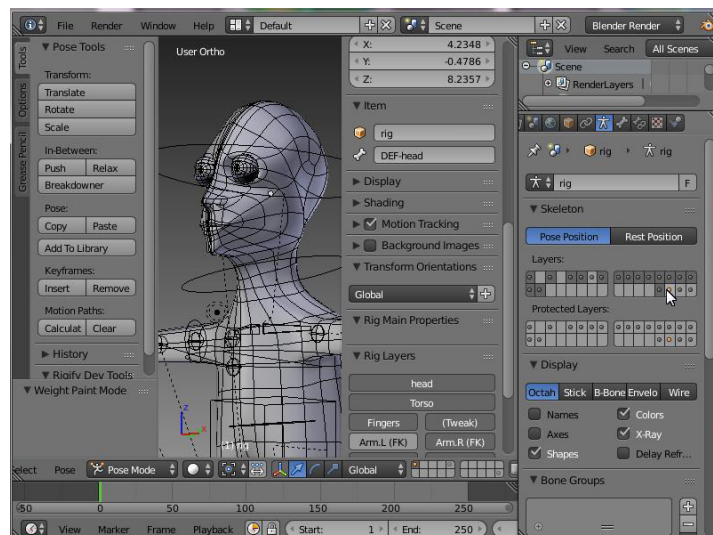
Choose the neck bone - DEF-neck - it influences also parts of the head - the parts colored green.



To remove the DEF-necks influence on the head - go to Edit Mode and because the head is selected you can click the Remove button to remove the DEF-necks influence on the head.



The result - DEF-neck - no longer influence the head.



And test the result in Pose Mode.

You can continue to test how the DEF-bones influence other parts of the body.